

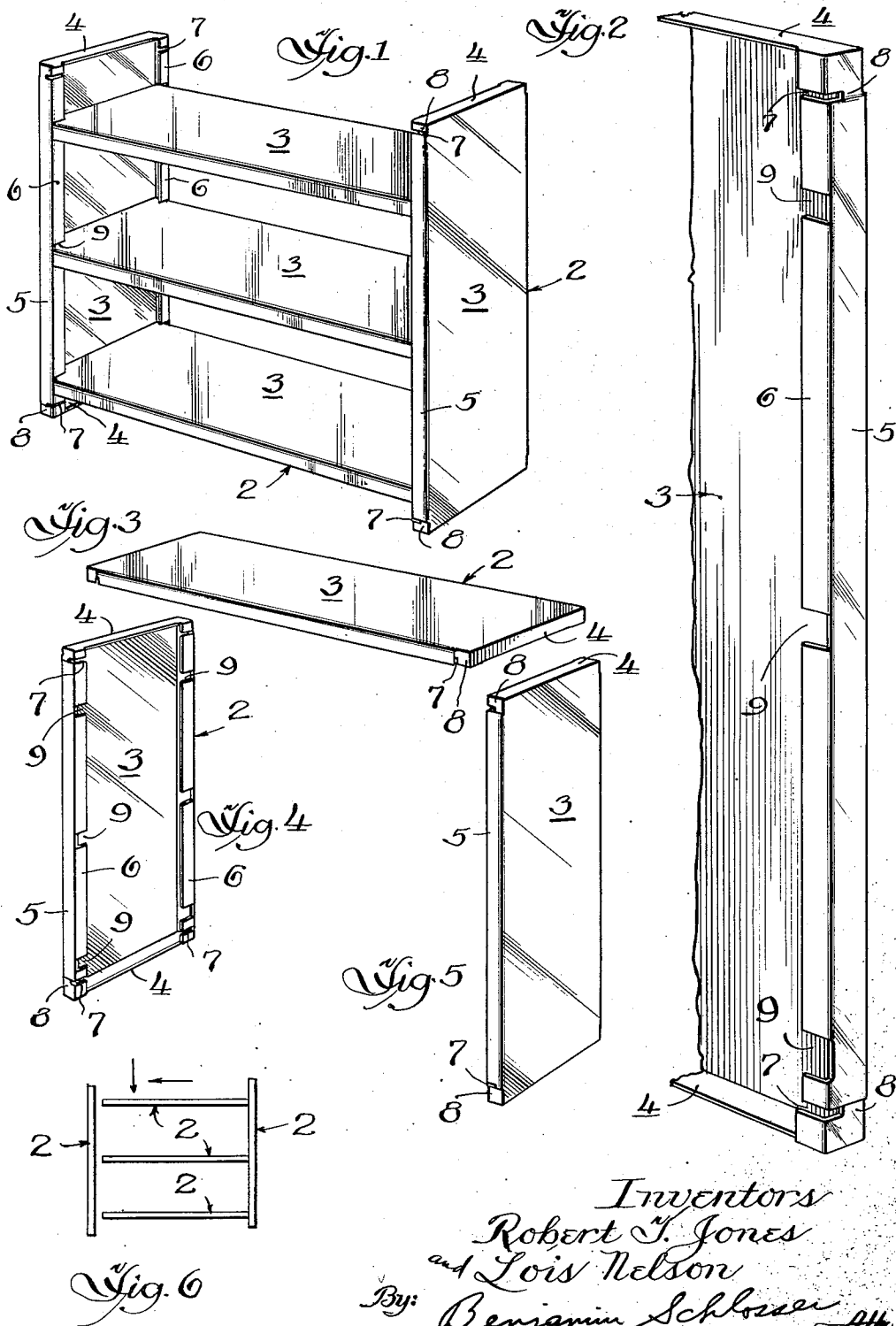
Oct. 8, 1957

R. T. JONES ET AL
SHELF CONSTRUCTION

2,808,944

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2 Sheets-Sheet 1



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Fig. 7

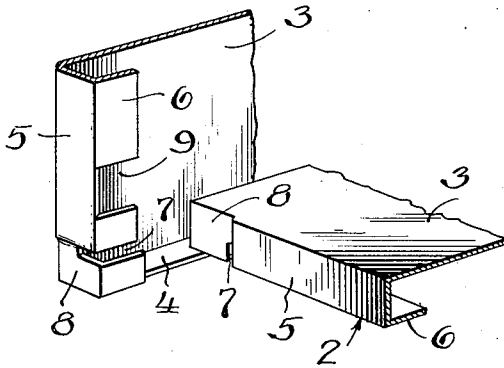


Fig. 8

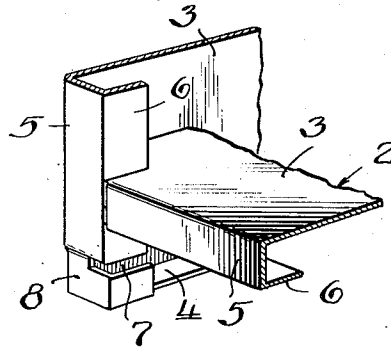


Fig. 9

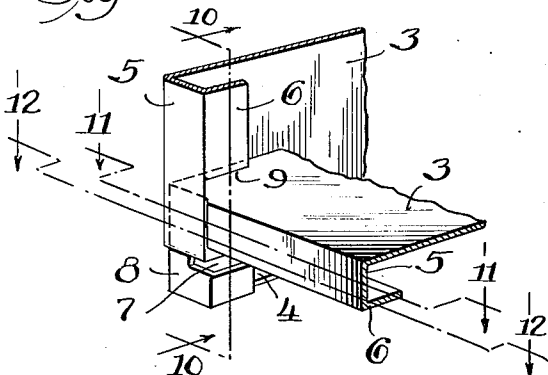


Fig. 10

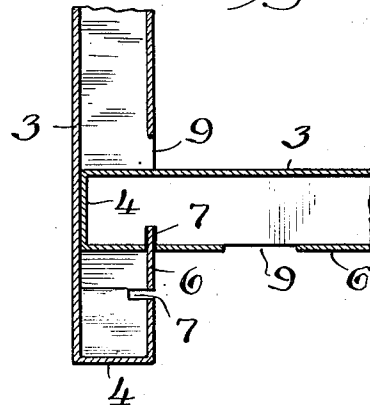


Fig. 11

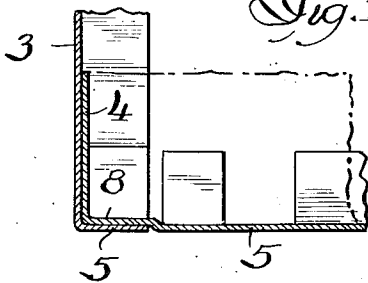
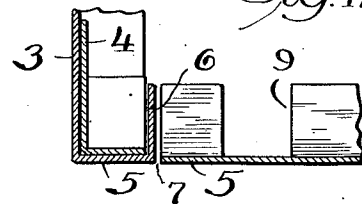


Fig. 12



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2,808,944

SHELF CONSTRUCTION

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2 Claims. (Cl. 211-148)

This invention relates to a shelf construction and is particularly concerned with individual shelf units that may be quickly and easily assembled into a rigid, self-supporting structure.

Shelving of the type to which the present invention refers may be used either as a permanent installation in a store or shop for holding merchandise, tools, dies, or supplies, or as a bookcase. Although the shelving is durable enough for permanent use, it may be readily disassembled for packing, shipping or storage without the use of tools, and may also be assembled without tools.

In the preferred form of our invention each of the individual shelf units is interchangeable and may be used as a shelf or as an end panel. However, the end panels may be made of a different size than the shelves in order to provide greater flexibility in building a structure of any desired size with prefabricated units of uniform size. If desired, a top panel may be applied to the structure to provide a neater finished appearance, but the top panel is not required. Each shelf is interlocked at each corner with the end panels to provide a rigid structure in which each shelf is supported by the end panels.

The individual units may be made of sheet metal or of any suitable plastic and no extra reinforcement or bracing members are required. The notches that are required for interlocking each shelf with the end members are so positioned that they do not weaken any of the parts. These notches are substantially concealed when the shelf structure is assembled so that the completed structure has a neat, attractive appearance.

The structure by means of which the above and other advantages of the invention are attained will be described in detail in the following specification, taken in conjunction with the accompanying drawings illustrating a preferred illustrative embodiment, in which:

Fig. 1 is a perspective view of a shelf construction embodying our invention;

Fig. 2 is an enlarged fragmentary perspective view of one of the units of the structure;

Fig. 3 is a perspective view looking at the top of one of the units in position to be used as a shelf unit when assembled with the end panels;

Fig. 4 is a perspective view looking at the inside of one of the units in position to be used as an end panel;

Fig. 5 is a perspective view looking at the outside of a unit in position to be used as an end panel;

Fig. 6 is a diagrammatic view illustrating the method of assembling a plurality of shelf units with a pair of end panels;

Fig. 7 is a fragmentary perspective view illustrating two of the units in position for interlocking;

Fig. 8 is a view, similar to Fig. 7, showing the panels partially engaged just before they are interlocked;

Fig. 9 is a view, similar to Fig. 7, showing the panels interlocked;

Fig. 10 is a cross sectional view, taken along the line 10-10 of Fig. 9;

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Fig. 11 is a cross sectional view, taken along the line 11-11 of Fig. 9; and

Fig. 12 is a cross sectional view, taken along the line 12-12 of Fig. 9.

In the drawings, the reference numeral 2 indicates one of the shelf units having a flat body portion 3 provided with end flanges 4 and side walls 5, all bent in the same direction at right angles to body portion 3. The ends of side walls 5 are each bent inwardly at right angles to provide flanges 6 extending parallel to body portion 3. The outer edges of side walls 5 and flanges 6 are flush with the outer surface of flange 4, and the meeting edges form closed corner joints having a neat appearance and substantial structural strength. A slot 7, spaced from each end a distance equal to the distance between flange 6 and body portion 3, extends through flange 6 and partially through side wall 5 along a line parallel to flange 4. The portion of side wall 5 between the slot 7 and the adjacent end flange is offset inwardly towards the opposite flange 5, as indicated at 8, to provide an end portion of slightly reduced width. This offset is substantially equal to the thickness of the sheet metal or plastic of which the individual units are made, for a reason hereinafter disclosed.

The unit described above would be fully satisfactory if it were to be used only as a shelf unit, but must be notched to enable it to be used as an end panel. A plurality of notches 9 are provided in each flange 6 extending through the entire width of the flanges. The longitudinal spacing between notches 9 may be varied, as desired, but each notch on one flange must be aligned transversely with a notch in the flange 6 at the opposite longitudinal edge of body portion 3. In the drawings three pairs of notches are shown, but it will be understood that the number as well as the spacing may be varied. If the end panels are to be of a different size than the shelf units, the slots 7 may be omitted from end panels, and the notches 9 may be omitted from the shelf units.

The method of assembling the shelf units and end panels will now be described. As shown in Fig. 7, one shelf unit is positioned to align its reduced offset portions 8 with a pair of notches 9 in a unit to be used as an end panel, and is then moved transversely until its adjacent end flange 4 abuts the inner surface of the body portion 3 of the end panel as shown in Fig. 8. In this position the slots 7 of the shelf unit are aligned with the edge of flange 6 defining the lower edge of notch 9 of the end panel. The shelf unit is then pressed downwardly to interlock its slots 7 with the edges of flange 6 of the end panel adjacent notches 9 to hold the two members firmly together, as shown in Figs. 9 and 10.

The other shelf units are then secured at one end to the same end panel. Then, as indicated in Fig. 6, the shelf units secured at one end to an end panel are positioned with their other ends aligned with notches 9 in another end panel. In this connection, unless the notches 9 are uniformly spaced from each end, care must be taken to have the notches 9 of the second end panel properly aligned with the notches of the first end panel. The end portion of each of the shelf units is inserted into one pair of notches, and the shelf units are then interlocked by pressing them individually to move the slots 7 over the edge of the flange 6 defining the adjacent notch 9. The shelf construction is then set up for use, as shown in Fig. 1. The shelf construction may be disassembled by reversing the procedure described above.

It should be noted that the offset portions 8 permit the end of a shelf unit to be positioned within the notches 9 of an end panel without bulging the adjacent side walls 5. The side wall 5 of the shelf unit is flush with the side wall 5 of the end panel to present a smooth, neat front surface for the structure. The end panels have a slot 7 exposed adjacent their upper and lower edges. These slots

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may be covered by a top member (not shown), if desired.

The notches 9 are substantially concealed in the set-up structure, as shown in Fig. 1. It will be obvious that additional notches 9 may be provided in flanges 6 without weakening the shelf construction and without supporting a shelf unit in each set of notches. The extra notches will provide selectivity in the positioning of the shelf units, so that the vertical spacing between adjacent shelf units may be varied within reasonable limits. The only restriction is that the notches 9 must not be positioned so closely to slots 7 that there is not sufficient room for proper interlocking of the shelf unit with the end panel.

Although we have described two embodiments of our invention in considerable detail, it will be understood that the description is intended to be illustrative, rather than restrictive, as many details of the invention may be modified or changed without departing from the spirit or scope of our invention. Accordingly, we do not desire to be restricted to the exact structure described, except as limited by the appended claims.

We claim:

1. A shelf construction comprising a plurality of interchangeable units each provided with side walls having reduced end portions, flanges extending inwardly from said side walls, said flanges having a plurality of pairs of notches, the reduced end portion of any one of said units being inserted in any one of said pairs of notches of a second unit of said plurality of interchangeable units, and a pair of slots in each of said side walls and flanges adjacent said reduced end portions, the slots of said one unit

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engaging one edge of said second unit contiguous to one of said notches of said second unit to interlock said units together, said one unit and said second unit thereby constituting a shelf and end panel, respectively.

2. A unit for shelf construction comprising a flat body portion having end flanges and side walls each bent at right angles to said body portion in the same direction, said side walls being bent inwardly adjacent opposite ends to form end portions of reduced width, said side walls having slots adjacent each bend defining the reduced end portions, and flanges extending from said side walls parallel to said body portion, said last mentioned flanges each having a slot adjacent each end aligned with and forming a continuation of each of said first mentioned slots, and a plurality of notches spaced intermediate said slots, said slots and said flanges cooperating to receive one end of a similar unit, whereby one of said units may be secured to a similar unit at approximately right angles thereto.

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